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News Release

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For immediate release

Argonne joins in Naperville's proposed Green Fuels Depot

ARGONNE, Ill. (August 18, 2009)—The grass is greener on the other side of the exhaust pipe.

A newly proposed collaboration between the U.S. Department of Energy's Argonne National Laboratory and the City of Naperville, Illinois would convert "landscape waste"—essentially, grass and leaf trimmings—into one of several different environmentally friendly fuels, including ethanol, bioelectricity and hydrogen.

This new partnership, known as the "Green Fuels Depot," provides "a golden opportunity for Argonne to be associated with one of our neighboring communities in promoting new technologies that we have pioneered here at the laboratory," said Glenn Keller, manager of vehicle systems in Argonne's Center for Transportation Research. Packer Engineering and the College of DuPage have also taken part in the initiative.

Argonne will use its expertise and resources in biofuels processing and advanced vehicle technologies to characterize and evaluate the three green fuel choices before they are deployed by the city. The laboratory will also aid in the development of advanced vehicles that can use these renewable energy sources, including plug-in electric vehicles (PHEVs) and hydrogen fuel cell vehicles.

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“There is unique, refreshing twist to this proposal,” Keller said. “It’s a utopian vision to have this closed loop circuit, where a city can turn their own yard waste into fuels that will benefit their community.”

The depot will use a gasifier from Packer Engineering to convert grass, leaves, branches and other biomass into syngas, a gas mixture that contains carbon monoxide and hydrogen. The syngas can then be used to create cellulosic ethanol, bio-electricity or hydrogen. Although the proposal calls for trying all three fuel types, Keller said it would be more practical to concentrate on producing just one fuel when the depot is built.

Because Naperville’s official vehicle fleet currently includes flex-fuel vehicles that run on both gasoline and ethanol, any cellulosic ethanol produced by the depot could be quickly put to use. The project will also focus on using syngas to produce green electricity for charging PHEVs and a hydrogen separation and storage process that could be used to fill up fuel-cell-powered vehicles.

Although the pilot project will use only 3 percent of the annual landscape waste collected by the city, if all 48,000 cubic yards of Naperville’s landscape waste were used in a full-scale Green Fuels Depot, it would be enough to fuel all 300 vehicles in the city fleet.

U.S. Rep. Judy Biggert (R-13th) has requested $4 million in federal funding to get the project started. It will require another $3.8 million in the second year. Through this partnership, the participants hope their findings will serve as a model for other cities across the country. A national network of similar Green Fuel Depots could help to reduce our dependence on petroleum, eliminate greenhouse gas emissions and create additional green jobs.

Green fuels depot—add two

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— By Jared Sagoff

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